

CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



10 DEC 2004



(43) International Publication Date
18 December 2003 (18.12.2003)

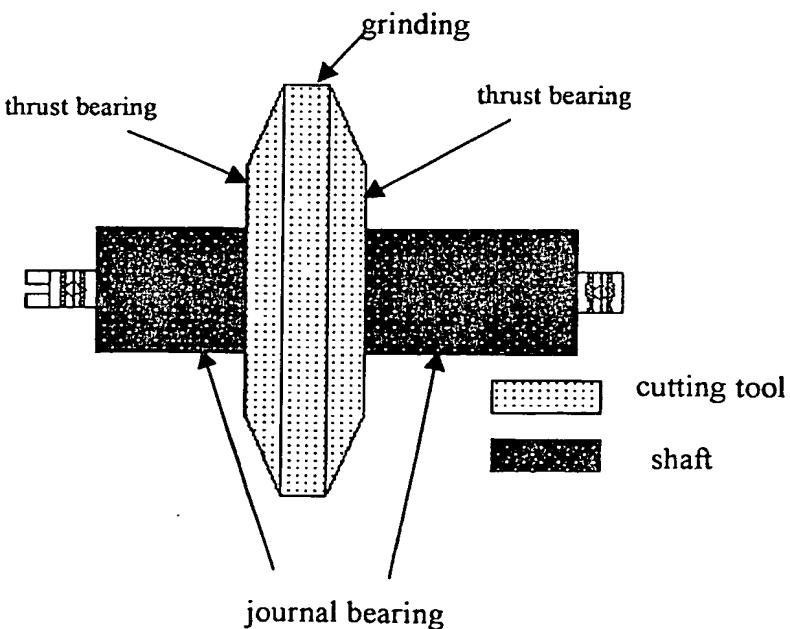
PCT

(10) International Publication Number
WO 2003/103893 A3

- (51) International Patent Classification⁷: B24B 41/04, F16C 32/06
- (21) International Application Number: PCT/BE2003/000104
- (22) International Filing Date: 10 June 2003 (10.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0213166.2 10 June 2002 (10.06.2002) GB
- (71) Applicant (*for all designated States except US*): K.U. LEUVEN RESEARCH AND DEVELOPMENT [BE/BE]; Groot Begijnhof, Benedenstraat 59, B-3000 Leuven (BE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): AL-BENDER, Farid [BE/BE]; Lentedreef 7, B-3000 Leuven (BE). GRE-GOIR, Christophe [BE/BE]; Hemelakkers 44, B-1930 Brasschaat (BE).
- (74) Common Representative: K.U. LEUVEN RESEARCH AND DEVELOPMENT; Groot Begijnhof, Benedenstraat 59, B-3000 Leuven (BE).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:**
— *of inventorship (Rule 4.17(iv)) for US only*
- Published:**
— *with international search report*
- (88) Date of publication of the international search report: 29 January 2004
- (48) Date of publication of this corrected version: 15 April 2004

[Continued on next page]

(54) Title: A MONOLITHIC ROTATING TOOL



(57) **Abstract:** A solution is presented for high speed rotating devices, in particular cutting tools, whereby the said rotating device (1) is made monolithic with its shaft and the bearing system, needed to support it during rotation, uses the surfaces of the rotating device (1) as bearing surfaces. In the preferred embodiment, the fluid film bearing system includes two journal bearings (2,4) on both sides of the cutting tool and two thrust bearings (3), which use the faces of the cutting tool (1) as bearing surfaces